Please replace the paragraph at page 6, line 26 to page 8, line 3, with the following rewritten paragraph. Per 37 C.F.R §1.121, this paragraph is also shown in Appendix A, page A2, with notations to indicate the changes made.

Colostrinin has been found to include a number of peptides ranging from 3 amino acids to 22 amino acids or more. These can be obtained by various known techniques, including isolation and purification involving eletrophoresis and synthetic techniques. The specific method of obtaining colostrinin and SEQ ID NO:31 is described in International Publication No. WO-A-98/14473. Using HPLC and Edelman Degradation, over 30 constituent peptides of colostrinin have been identified, which can be classified into several groups: (A) those of unknown precursor; (B) those having a β-casein homologue precursor; (C) those having a β-casein precursor; and (D) those having an annexin precursor. These peptides are described in International Patent Publication No. WO 00/75173, filed June 2, 2000, claiming priority to June 2, 1999, and can be synthesized according to the general method described in the Examples Section. These peptides (i.e., constituent peptides of colostrinin), which can be derived from colostrinin or chemically synthesized, include: MQPPPLP (SEQ ID NO:1); LQTPQPLLQVMMEPQGD (SEQ ID NO:2); DQPPDVEKPDLQPFQVQS (SEQ ID NO:3); LFFFLPVVNVLP (SEQ ID NO:4); DLEMPVLPVEPFPFV (SEQ ID NO:5); MPQNFYKLPQM (SEQ ID NO:6); VLEMKFPPPPQETVT (SEQ ID NO:7); LKPFPKLKVEVFPFP (SEQ ID NO:8); VVMEV (SEQ ID NO:9); SEQP (SEQ ID NO:10); DKE (SEQ ID NO:11); FPPPK (SEQ ID NO:12); DSQPPV (SEQ ID NO:13); DPPPPQS (SEQ ID NO:14); SEEMP (SEQ ID NO:15); KYKLQPE (SEQ ID NO:16); VLPPNVG (SEQ ID NO:17); VYPFTGPIPN (SEQ ID NO:18); SLPQNILPL (SEQ ID NO:19); TQTPVVVPPF (SEQ ID NO:20);

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LQPEIMGVPKVKETMVPK (SEQ ID NO:21); HKEMPFPKYPVEPFTESQ (SEQ ID NO:22); SLTLTDVEKLHLPLPLVQ (SEQ ID NO:23); SWMHQPP (SEQ ID NO:24); QPLPPTVMFP (SEQ ID NO:25); PQSVLS (SEQ ID NO:26); LSQPKVLPVPQKAVPQRDMPIQ (SEQ ID NO:27); AFLLYQE (SEQ ID NO:28); RGPFPILV (SEQ ID NO:29); ATFNRYQDDHGEEILKSL (SEQ ID NO:30); VESYVPLFP (SEQ ID NO:31); FLLYQEPVLGPVR (SEQ ID NO:32); LNF (SEQ ID NO:33); and MHQPPQPLPPTVMFP (SEQ ID NO:34). These can be classified as follows: (A) those of unknown precursor include SEQ ID NOs:2, 6, 7, 8, 10, 11, 14, and 33; (B) those having a β-casein homologue precursor include SEQ ID NOs:1, 3, 4, 5, 9, 12, 13, 15, 16, 17, and 31; (C) those having a β-casein precursor include SEQ ID NOs:18 (casein amino acids 74-83), 19 (casein amino acids 84-92), 20 (casein amino acids 93-102), 21 (casein amino acids 103-120), 22 (casein amino acids 121-138), 23 (casein amino acids 139-156), 24 (casein amino acids 157-163), 25 (casein amino acids 164-173), 26 (casein amino acids 174-179), 27 (casein amino acids 180-201), 28 (casein amino acids 202-208), 29 (casein amino acids 214-222), 32 (casein amino acids 203-214), and 34 (casein amino acids 159-173); and (D) those having an annexin precursor include SEQ ID NO:30 (annexin amino acids 203-220).

Please replace the paragraph at page 11, line 4 to page 11, line 19, with the following rewritten paragraph. Per 37 C.F.R §1.121, this paragraph is also shown in Appendix A, page A4, with notations to indicate the changes made.

For instance, peptide/carrier molecule conjugates may be prepared by treating a mixture of peptides and carrier molecules with a coupling agent, such as a carbodiimide. The coupling agent may activate a carboxyl group on either the peptide or the carrier molecule so that the carboxyl group can react with a nucleophile (e.g., an amino or hydroxyl group) on the other member of the peptide/carrier molecule, resulting in the covalent linkage of the peptide and the carrier molecule. For example, conjugates of a peptide coupled to ovalbumin may be prepared by dissolving equal amounts of lyophilized peptide and ovalbumin in a small volume of water. In a second tube, 1-ethyl-3-(3-dimethylamino-propyl)-carbodiimide hydrochloride (EDC; ten times the amount of peptide) is dissolved in a small amount of water. The EDC solution was added to the peptide/ovalbumin mixture and allowed to react for a number of hours. The mixture may then dialyzed (e.g., into phosphate buffered saline) to obtain a purified solution of peptide/ovalbumin conjugate. Peptide/carrier molecule conjugates prepared by this method typically contain about 4 to 5 peptides per ovalbumin molecule.

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Please replace the paragraph at page 15, line 30 to page 16, line 14, with the following rewritten paragraph. Per 37 C.F.R §1.121, this paragraph is also shown in Appendix A, page A5, with notations to indicate the changes made.

Methods: To evaluate the effect of colostrum, colostrinin and its component peptides on cell differentiation 3 x 10^4 logarithmically replicating (70% confluence) PC12 cells were seeded in 24 x well plates and cells were allowed to adhere and grow for 24 hours. Serum containing media were aspirated and replaced for serum-free RPMI containing appropriate amount of antibiotics. In four parallel, increasing concentrations (0.1, 1, 10 and 100 μg per ml) of colostrum, colostrinin and its component peptides were added directly into the media and incubated at 37°C. As a positive control, nerve growth factor (NGF) 7S (Gibco-BRL) was used at 100 ng per ml concentration (Chao, Cell, 68, 995-997 (1992); and Marshall et al., Cell, 80, 179-185 (1995)). Phorbol 12-myristate 13-acetate (TPA: 10 ng per ml) was used as a negative control. Eight hours later the media were changed and RPMI-1640 was added containing 1% or 10% fetal bovine serum. The cultures were microscopically investigated 2nd, 4th and 6th days after treatment. Six days after treatment cells were fixed with paraformaldehyde (4%) and stained with 0.01% crystal violet solution. Excess of dyes were removed by ethanol washing. The final evaluation took place using a microscopy (*Axiophot2* Zeiss Inc., Germany).

Please replace the paragraph at page 16, line 16 to line 28, with the following rewritten paragraph. Per 37 C.F.R §1.121, this paragraph is also shown in Appendix A, page A6, with notations to indicate the changes made.

RESULTS

Control non-treated cells demonstrated the usual rounded morphology, continued to replicate and reach 70% to 80% confluency during 7 days experimental period. The mock-treated control and TPA exposed cells showed a low background level of differentiation (less than 0.01%). In the assay system used herein, NGF (100 ng per ml) mediated a cell cycle arrest as previously described (Chao, Cell, 68, 995-997 (1992)). In several experiments, in the presence of 10% fetal bovine serum NGF-mediated an induction of cell differentiation that observed in 45±11% of cells. When cells were subjected to NGF-mediated differentiation in the presence of 1% serum 5% to 10% of cells showed morphological changes. The differentiated cells showed typical neuron-like morphology. In parallel experiments, nine component peptides, colostrinin and colostrum were tested. The results are summarized in Table 1.